

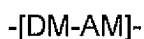
Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A reaction product of reactants, wherein the reactants comprise:

a) at least one copolymer comprising at least 30 mol % of residues having the following alternating structural units:



wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene, isoprenol, or combinations thereof at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;

b) at least one aldehyde; and

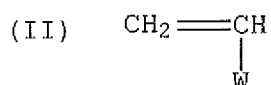
c) at least one monohydric alcohol;

wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:

d) at least one material that will convert said groups into carbamate groups.

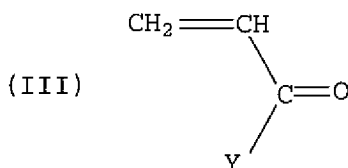
Claims 2 – 4 (Cancelled)

5. (Original) The reaction product of claim 1, wherein the acceptor monomer comprises one or more described by the structure (II):



wherein W is selected from the group consisting of linear or branched C₁ to C₂₀ alkyl and alkylol.

6. (Original) The reaction product of claim 1, wherein the acrylic monomer is one or more described by structure (III):



wherein Y is $-OR^4$, and R^4 is linear or branched C_1 to C_{20} alkyl, alkylol or carbamoyl alkyl.

7. (Original) The reaction product of claim 6, wherein Y includes at least one hydroxyl group or carbamate group.

8. (Original) The reaction product of claim 1, wherein the copolymer has a molecular weight of from 250 to 100,000.

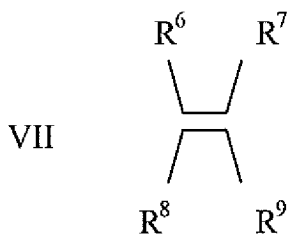
9. (Original) The reaction product of claim 1, wherein the copolymer has a polydispersity index of less than 4.

10. (Original) The reaction product of claim 1, wherein the alternating structural units comprise at least 50 mol % of the copolymer.

11. (Original) The reaction product of claim 1, wherein the acceptor monomer is one or more selected from the group consisting of hydroxyethyl acrylate, hydroxypropyl acrylate, 4-hydroxybutyl acrylate, 2-carbamoyloxyethylacrylate, and 2-carbamoyloxypropyl acrylate.

12. (Original) The reaction product of claim 11, wherein the acceptor monomer is 4-hydroxybutyl acrylate.

13. (Original) The reaction product of claim 1, wherein the copolymer comprises one or more residues derived from other ethylenically unsaturated monomers of general formula VII:



wherein R^6 , R^7 , and R^9 are independently selected from the group consisting of H, CF_3 , straight or branched alkyl of 1 to 20 carbon atoms, aryl, unsaturated straight or branched alkenyl or alkynyl of 2 to 10 carbon atoms, unsaturated straight or branched alkenyl of 2 to 6 carbon atoms substituted with a halogen, C_3 - C_8 cycloalkyl, heterocyclyl and phenyl, R^8 is selected from the group consisting of H, C_1 - C_6 alkyl, and COOR^{10} , wherein R^{10} is selected from the group consisting of H, an alkali metal, a C_1 to C_6 alkyl group, and C_6 to C_{20} aryl.

14. (Original) The reaction product of claim 13, wherein the other ethylenically unsaturated monomers are one or more selected from the group consisting of (meth)acrylic monomers and allylic monomers.

15. (Original) The reaction product of claim 1 wherein the groups that can be converted to carbamate groups are hydroxyl groups and (d) is a carbamate-containing material that is reactive with the hydroxyl groups.

16. (Original) The reaction product of claim 15 wherein (d) is methyl carbamate.

17. (Original) The reaction product of claim 1 wherein the aldehyde is formaldehyde.

18. (Original) The reaction product of claim 1 wherein the monohydric alcohol is selected from at least one of methanol, ethanol, n-propanol, isopropanol, n-butanol, isobutanol, and cyclohexanol.

19. (Original) The reaction product of claim 1 wherein the copolymer is substantially free of maleate monomer segments and fumarate monomer segments.

20. (Original) The reaction product of claim 1 wherein the copolymer is prepared in the absence of Lewis acids and transition metals.

21. (Original) The reaction product of claim 1, wherein said reaction product has an equivalent weight of from 125 to 3000, based on etherified carbamate functional groups.

22. (Original) A curable composition comprising the reaction product of claim 1.

23. (Original) A curable composition comprising:

- a) the reaction product of claim 1 and
- b) at least one material having functional groups that are reactive with the reaction product of a).

Claims 24 - 25 (Cancelled)

26. (Original) The curable composition of claim 23, wherein the material b) has functional groups selected from the group consisting of hydroxyl, methylol, methylol ether, carboxylic acid, amide, thiol, urea, carbamate, thiocarbamate, and mixtures thereof.

27. (Original) The curable composition of claim 26, wherein the material b) is a polymer selected from the group consisting of acrylic, polyester, polyether and polyurethane polymers including mixtures thereof.

28. (Original) The curable composition of claim 23 wherein the material b) is an aminoplast.

29. (Original) The curable composition of claim 27, further comprising at least one auxiliary crosslinking agent different from a) and b), present in amounts of 1 to 50 percent by weight based on total weight of resin solids in the curable composition.

30. (Previously presented) The curable composition of claim 29, wherein the auxiliary crosslinking agent is chosen from at least one of polyisocyanates; triazine compounds of the formula: $C_3N_3(NHCOXR)_3$, wherein X is nitrogen, oxygen, sulfur, phosphorus, or carbon, and R is a lower alkyl group having one to twelve carbon atoms, mixtures of lower alkyl groups; aminoplasts, or combinations thereof; and the material b) has functional groups that are reactive with the auxiliary crosslinking agent.

31. (Original) The curable composition of claim 30, wherein the auxiliary crosslinking agent is a polyisocyanate, and wherein at least a portion of the isocyanate groups are capped.

Claims 32 – 39 (Cancelled)

40. (Currently Amended) A copolymer comprising at least 30 mol % of residues having the following alternating structural units:



wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene isoprenol, or combinations thereof, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer; the copolymer containing pendant groups of the structure:



where R' is alkyl containing one to eight carbon atoms and R'' is selected from H, CH_2OR' , linear, cyclic or branched C_1 to C_{20} alkyl, alkenyl, C_6 to C_{20} aryl, alkaryl and aralkyl.

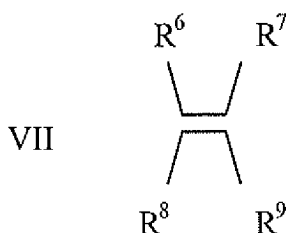
Claims 41 – 42 (Cancelled).

43. (Original) The copolymer of claim 40, wherein the copolymer has a molecular weight of from 250 to 100,000.

44. (Original) The copolymer of claim 40, wherein the copolymer has a polydispersity index of less than 4.

45. (Original) The copolymer of claim 40, wherein the alternating structural units comprise at least 50 mol % of the copolymer.

46. (Previously presented) The copolymer of claim 40, wherein the copolymer comprises one or more residues derived from other ethylenically unsaturated monomers of general formula VII:



wherein R^6 , R^7 , and R^9 are independently chosen from H, CF_3 , straight or branched alkyl of 1 to 20 carbon atoms, aryl, unsaturated straight or branched alkenyl or alkynyl of 2 to 10 carbon atoms, unsaturated straight or branched alkenyl of 2 to 6 carbon atoms substituted with a halogen, C_3 - C_8 cycloalkyl, heterocyclyl or phenyl, R^8 is chosen from the group consisting of H, C_1 - C_6 alkyl, or COOR^{10} , wherein R^{10} is chosen from H, an alkali metal, a C_1 to C_6 alkyl group, or C_8 to C_{20} aryl.

47. (Original) The copolymer of claim 46 wherein the other ethylenically unsaturated monomers are one or more selected from the group consisting of methacrylic monomers and allylic monomers.

48. (Previously presented) The copolymer of claim 40 wherein R^1 is chosen from at least one of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, or cyclohexyl.

49. (Original) The copolymer of claim 40 wherein the copolymer is substantially free of maleate monomer segments and fumarate monomer segments.

50. (Original) The copolymer of claim 40, wherein said copolymer has an equivalent weight of from 125 to 3000, based on etherified carbamate functional groups.

51. (Previously Presented) A curable composition comprising the copolymer of claim 40.

52. (Previously Presented) A curable composition comprising:

- a) the copolymer of claim 40 and
- b) at least one material having functional groups that are reactive with the copolymer of a).

Claims 53 – 54 (Cancelled)

55. (Original) The curable composition of claim 52, wherein the material (b) has functional groups selected from the group consisting of hydroxyl, methylol, methylol ether, carboxylic acid, amide, thiol, urea, carbamate, thiocarbamate, and mixtures thereof.

56. (Original) The curable composition of claim 55, wherein the material (b) is a polymer selected from the group consisting of acrylic, polyester, polyether and polyurethane polymers including mixtures thereof.

57. (Original) The curable composition of claim 55 wherein the material (b) is an aminoplast.

Claims 58 – 69 (Cancelled)

70. (New) A reaction product of reactants, wherein the reactants comprise:

- a) at least one copolymer comprising at least 30 mol % of residues having the following alternating structural units:

- [DM-AM] -

wherein DM represents a residue from a donor monomer, AM represents a residue from an acceptor monomer, at least 15 mol % of the copolymer comprising a donor monomer chosen from isobutylene, diisobutylene, dipentene, isoprenol, or combinations thereof, at least 15 mol % of the copolymer comprising an acrylic monomer as an acceptor monomer, and wherein the donor monomer is in molar excess to the acceptor monomer;

the copolymer containing pendant carbamate groups or groups that can be converted to carbamate groups;

b) at least one aldehyde; and

c) at least one monohydric alcohol;

wherein when the copolymer (a) contains groups that can be converted to carbamate groups, the reactants further comprise:

d) at least one material that will convert said groups into carbamate groups.